NA AND MANEL

The National Tree and The National Flower of Sri Lanka

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Central Environmental Authority
Ministry of Environmental and Parliamentary Affairs

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இலங்கை சனாதிபதி
President of Sri Lanka

Down the ages, almost every civilised country has had National Symbols. They range from flags and emblems to mascots, trees and flowers. They signify instances of national pride or cultural excellence. Invariably such Symbols are a source of national identity. They also bestow on a nation, an individuality of its own.

Human beings are a part and parcel of the natural eco-system of the Planet Earth. In fact, natural eco-systems gave birth to mankind. Therefore, the future survival of mankind and the preservation of natural eco-systems are intricately inter-woven.

In 1986 the Government declared NA and MANEL as the National Tree and National Flower respectively. I am glad that I was able to initiate a process of consultation for their selection as a part of the Hundred Million Trees Programme. In this nation-wide consultative process the people of Sri Lanka were given the opportunity to express their views and make their suggestions.

The decision to select NA and MANEL as the National Tree and the National Flower was taken after much deliberation and careful consideration. Public response was positive. It showed that the selection of NA and MANEL had unanimous support.

The National Tree and the National Flower have now acquired an identity and a meaning which they amply deserve. Today these two National Symbols have become the focal points of the rich and varied flora of Sri Lanka.

There is no doubt that NA and MANEL will receive the loving care and affection of our people for all time. I congratulate the Central Environmental Authority for steering this national venture to its logical conclusion.

I am confident that these two National Symbols will act as catalysts in forging unity and amity among the diverse groups that constitute the one unitary State of Sri Lanka.

R. Premadasa
President

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Na and Manel - Symbols of a Nation

The choice of a National Tree and a National Flower for Sri Lanka was an auspicious assignment because it was firstly, a part of the Nation's Hundred Million Trees Programme initiated by his Excellency, President Ranasinghe Premadasa, when he was Prime Minister, an excellent background to guide one's choice, and secondly, the fact that the people of our country, the living symbols of our culture, were given the opportunity to participate in the search and express their opinions freely. Thus the final choice of a National Tree and a National Flower would necessarily embody the essence of our culture, our national identity, in Sri Lanka's role as part of a global society.

In 1986 after careful consideration through a process of consultation on a nationwide level the Na tree and the Manel flower were chosen as Sri Lanka's National Tree and National Flower - themselves beautiful and enduring symbols of one of Sri Lanka's great national heritages - its vast resources of beautiful Flora.

Today the NA tree and the BLUE MANEL flower are symbols of a Nation with ideals as strong and enduring as the NA and a promise of life, with total fulfilment for its peoples, as sure as the blossoming of the MANEL - in all its beauty...

Hon. M. Vincent Perera
Minister of Environment and
Parliamentary Affairs

Hon. Dr. Wimal Wickramasinghe
Minister of Environment

Preserve Our Heritage

Each nation has certain symbols to which they attach some cultural or national values. Symbols that signify people's aspirations, reverences or fears will speak volumes for their development process, through the long years of their evolution.

Although several countries have national flowers and national trees, Sri Lanka gave serious thought to it only when the '100 Million Trees Programme' was launched by the Central Environmental Authority under the guidance of the then Prime Minister Honourable Ranasinghe Premadasa. As man's very existence depends to a great extent on plant life, it was felt that an attitude of love and veneration for the flora should be cultivated. The selection of the National Tree and the National Flower was not an easy task. In the selection of these two symbols,among other things, the following guide-lines were used:-

a. Utility value
b. Historical significance
c. Distribution
d. Beauty
e. Being indigenous
f. Not being the national tree or the national flower of another country.

Nationwide consultations and discussions were held prior to identifying the Na Tree and the Manel Flower as the National Tree and the National Flower respectively. The present publication places on record the factors that contributed to this selection.

The National Tree and the National Flower have now acquired their respective identities among the other national symbols of Sri Lanka. These will help strengthen the understanding of, and ties between man and plant life.

I have no doubt that these two national symbols will grow in stature and significance and make a valuable contribution to the preservation and enhancement of our heritage.

G. K. Amaratunga
Chairman
CENTRAL ENVIRONMENTAL AUTHORITY

Tree Cover of Sri Lanka

The dwindling tree cover of Sri Lanka has been the cause of much concern over a long period of time. As early as 1895, The Ceylon Forester pointed out the impending danger in the following terms:

> "To many people the Forest Department is merely a commercial concern, which fells so many logs & c. per annum, and sells them at so much per c.ft. or log; and if this were the sole work of the Department the question of whether it paid or not might be a fair test. But this is in reality one of the least of the duties of a Forest Officer. His first and most important duty is the conservation of forests, or safeguarding them from two great dangers, firstly, from outside encroachments and secondly from overfelling. Mr. Vincent, in his able Report, pointed out that the forests had been overworked, and that they required rest; this, we believe, is the opinion of nearly every officer in the Department..."[1]

The report referred to in the quotation above, is that of Mr. F.D'A. Vincent of the Indian Forest Service, who was commissioned in 1882 to report and advise on the forest position in Sri Lanka.

In spite of the different policies adopted from time to time the drastic decline of forest cover over the years is well illustrated by the following figures.[2]

Year	Population	Extent of Forest Cover in Sri Lanka
1900	3.5 m.	70%
1953	8.1 m.	50%
1981	15.0 m.	25%

A sectoral committee reporting on Agriculture, Forestry and Fisheries in 1984 declared: "The rate of deforestation has been estimated to be 6400 hectares (16,000 acres) per year. If the present rate of deforestation continues, Sri Lanka will be completely depleted of all forests at the end of the century."[3]

The strategies adopted to protect the existing tree cover over the years are many and varied. Apart from legal and administrative measures that have been made more and more stringent over the years to meet the increasing threat to the existing forest cover, different programmes have been implemented to increase tree planting and reforestation.

The importance of tree planting in the face of fast dwindling forest resources cannot be over-emphasised. Tree planting on a nation-wide scale needs mass mobilization. It is in this context that the programme for the planting of 100 Million Trees launched by His Excellency the President R. Premadasa at the time he was Prime Minister of Sri Lanka is acclaimed as a unique programme for mass mobilization for tree planting on an unprecedented scale, and as one which simultaneously promoted national awareness on the importance of tree cover and its conservation.

1. *Anonymous. The Working of the Forest Department, The Ceylon Forester, Vol. 1, No. 12, 1895, p. 2.*
2. *Nanayakkara V. R. Forests - Policies and Strategies for Conservation and Development, Sri Lanka Forester, Vol. 15, No. 304, 1982, p. 75.*
3. *Report of the Sub-committee on Agriculture, Forestry and Fisheries to the National Science Policy Co-ordinating Committee of the Ministry of Plan Implementation. September 1984. (Photocopy).*

The 100 Million Trees Programme

The 100 Million Trees Programme was launched in 1985, on a directive from the Hon. Prime Minister, by the Central Environmental Authority with the active collaboration of several government and non-governmental organizations. It was a multi-faceted programme that involved the people in tree planting on a large scale.

The main objectives of this endeavour were:

I. SHORT TERM

(a) To increase the land area under tree cover by the planting and sustenance of "Hundred Million Trees" by the end of 1988, through motivation and making available facilities and know-how to do so.

(b) To promote conservation of plants by prevention of wanton destruction and through the promotion of more efficient use of plant resources.

II. LONG TERM

To improve the quality of life of the people of Sri Lanka through the enrichment of the environment by increasing tree cover and maximising efficiency of its use.

The strategies and activities proposed for the purpose of achieving the above objectives included the following:

(a) To create a general atmosphere where the value of flora is recognised, promote a social value system favourable to tree planting and care and make it a part of the cultural milieu.

(b) To make the public aware and responsive to the 100 Million Trees Campaign.

The main components of the different facets of activities that comprised the strategy, were:

1. Selection of a National Tree and a National Flower
2. Preparation of a logo and a motto
3. Vrikshadana (plant donation) campaigns
4. Vanamahotsava (tree planting festivals)
5. Publicising Vriksha cartoon characters drawing attention to the importance of tree planting
6. Encouragement of school children to maintain nature diaries
7. Promotion of festivals and special events connected with tree planting
8. All island plant nurseries competition.

The above account highlights the pride of place assigned to the selection of the two National Symbols.

Selection of The National Tree and The National Flower

A national competition was held for this selection. Public announcements were made through the media. The request was for those who were interested to suggest a suitable tree/flower stating reasons for their respective preferences. This procedure involving the public in a debate about the merits and demerits of trees and flowers for selection as national symbols, in itself created a greater awareness of the country's flora.

Several thousands of entries naming different trees and flowers for the prestigious positions were received. The arguments adduced in favour of some nominations were very formidable. The judges thus faced a difficult task.

The arguments adduced in favour of different trees and flowers were based on utility, and on cultural, historical, scientific and aesthetic considerations. In addition, the panel of judges adhered to the criteria that the selected plant species should be indigenous, that they should grow easily in most parts of the country, and that they should not have already been selected as the national tree or the national flower of any other country.

The lotus, (*Nelumbo nucifera*), cited by many as their choice for the national flower had to be ruled out on the basis that it is the National Flower of India and Bangladesh. The coconut, (*Cocos nucifera*), suggested as the national tree, mainly on the basis of its economic utility, was already the national tree of the Maldives. Some other suggestions like jak, though of high utility value as a source of both food and timber, did not meet the criterion of being an indigenous plant. The panel unanimously decided that the Na *(Mesua ferrea)* tree and the Blue Manel *(Nymphaea stellata)* flower be named the National Tree and the National Flower respectively.

The pages that follow will document the multiplicity of reasons that prevailed on this historic decision, together with additional material we could gather on social, cultural and historical aspects.

On a recommendation by His Excellency the President R. Premadasa, who was the then Prime Minister, the Cabinet of Ministers decided on February 26, 1986 as follows:

> "The Cabinet considered a Note dated 25.02.1986 on 'Selection of a National Tree and a National Flower, a sub-project of the 100 Million Trees Programme' tabled by the Prime Minister - since numbered as Cabinet paper 116 of 1986 (Continuation 40) - and the recommendation to declare the Na Tree as the National Tree and the Blue Manel Flower as the National Flower was approved."

Abodes of Divine Beings

In Pali and Sanskrit, both classical languages, the 'Na' tree is called 'Naga'. From ancient times Na was venerated as a sacred tree. According to Buddhist chronicles Na is the tree under which the past Buddhas, Mangala, Sumana, Revata and Sobhita attained enlightenment.[1] It is also stated that the next Buddha Maitreya will also attain enlightenment under a Na tree.[2] The Na tree therefore deserves recognition as the tree serving the largest number of Buddhas at the time of enlightenment.

Na is grown in the gardens of Buddhist Viharas. It is also grown near Devalayas dedicated to various devas revered by Sri Lankan Buddhists and Hindus. It is therefore a common sight in these places of worship.

The ancient gramacaityas of India were invariably trees, dedicated to various divine beings including yakkhas. The cetiyas mentioned in the Mahaparinibbana Sutta such as Sarandada, Capala, Bahuputtaka, Gotamaka, Sattambaka, etc. where Buddha rested from time to time on his last journey were tree shrines dedicated to various devas and revered by the Vajjis. Sujata offered Khirapayasa (milk-rice) to the Bodhisattva who was seated at the foot of a banyan tree in the belief that he was the tutelary divinity of the tree who had personally manifested himself to receive her offering.

It is also significant that the Buddha was born, attained enlightenment and attained parinibbana under trees - birth and parinibbana under Sal *(Shorea robusta)*, the national tree of the Sakyas, and enlightenment under the assattha (bo -*Ficus religiosa*). In Sri Lankan villages we often find Na trees which are believed to be the abodes of divine beings.

In Sammohavinodani, (5C. A.C.) the Vibhanga commentary, it is stated:

> In the Naga Monastery of the Rohana settlement of ancient Sri Lanka, the incumbent monk, had a Na tree felled, without consulting the members of the Brotherhood (Sangha). The deity who dwelt in the tree, was angered by this act of the incumbent monk. The deity appeared to him in a dream and told him, "In seven days from now, the king who is your benefactor will pass away". The monk believed this story, and broke the bad news to the ladies of the court. The ladies of the court started to wail aloud at this news. When the king inquired about this they revealed the bad news to him.
>
> The King calculated the days from that time on and when seven days had passed without incident he had the monk's hands and legs cut off.[3]

The story illustrates that Na Trees were grown in ancient monasteries and that these trees were considered as abodes of divine beings.

Na is not used commonly in Sri Lanka for building purposes, although its timber is hard and durable. One reason perhaps is that its timber is difficult to work on. Yet another deterrent is the fact that it is found in places of worship and it is therefore considered sacred by some people. Na is often used for construction of Temples and Devalayas. However, Na has been exported as an item useful for building in the 19th century. F.D'A. Vincent reported thus in 1882:

> "A large portion of forest produce is exported to India, China and Europe. India takes Trincomalee wood for its gun carriage factories, for Madras masula boats, & c; satin and ironwood for building; palmyra for rafters..." [4]

When its young-leaves begin to sprout the Na tree is very attractive. The reddish hue and the delicate smoothness of the tender leaves are fascinating. The complexion and the tenderness of the lips of maidens have been compared to those of the tender Na leaf by Sinhala poets. One such reference is found in Stanza No. 394 of Sigiri Graffiti. This stanza is unique in that it refers to both Na and Manel.

1. *Buddhavamsa. Ed. Jayawickrama, N.A. Pali Text Society, London, 1974. pp. 30 - 39.*
2. *Anagatavamsa. Ed. by Ven. Vataddara Medhananda. Colombo, 1934. p. 161*
3. *Sammohavinodani. (Simon Hewavitarne Bequest) Vol. 34 Colombo. 1932. p. 286.*
4. *Vincent, F.D'A. The Forests of Ceylon. The Indian Forester, Vol. 8, No. 1,1882, p. 27.*

'(Her) eyebrow is like a leaf of the nim (tree), her face resembles the moon; by the lips of the young maiden the tender leaves of the Na tree have been worsted. So said to me waving her long arms, the charming confidante, who is like unto a tender leaf and who holds down (in her hand) a water lily.

I am Friar Sen of Kayabura.'[5]

The Salalihini Sandesaya (15th century) refers to the Na trees on either side of the Kelani river (stanza 43).

"The two banks of the River Kelani, are comely with the cloudlike shadows cast by Sal, Sapu, Na and other trees."[6]

According to stanza 46 of Salalihini Sandesaya village damsels wear pollen-bearing Na flowers in their ears as ornaments when they dally in pleasure parks with their lovers.[7]

Stanza number 91 of Parevi Sandesaya[8] (15th century) is witness to the fact that the Na tree grew profusely in Sri Lanka's countryside. The stanza describes the tender leaves on the Na trees of the village called Pollava, blazing like flames.

In Hamsa Sandesaya (15th century) the poet describes the Na trees in front of Karagala Pirivena, in alluring terms.

"The Na trees with flowers in their hand-like branches, whispering Buddha mantras in the voice of the humming of bees, seem to stand around, each wishing that the incumbent monk would sit under its shade on the day he attains Buddhahood."[9]

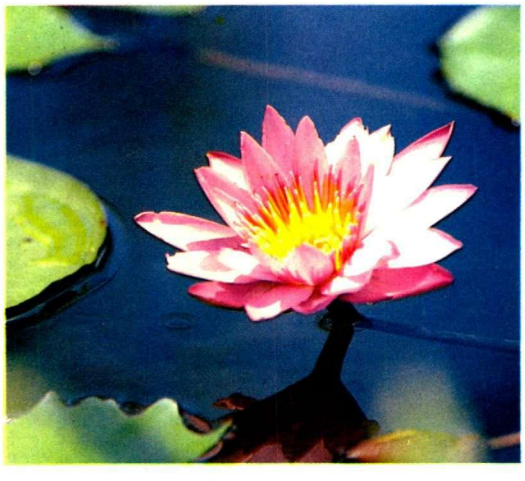
Humming bees gather round Na flowers to collect their pollen. The author of the Hamsa Sandesaya, visualizes the Na as a person who prays with the voice of bees to be able to shelter the incumbent monk, on the day he attains Buddhahood.

5. *Paranavitana, S. Sigiri Graffiti, Vol. 2. Oxford University Press, London, 1956. Stanza 394, p. 245.*
6. *Salalihini Sandesaya. Ed. Senanayake, G.S.B., Pradeepa Press, Colombo. 1972. Stanza 43. p. 61.*
7. *Ibid. p. 62.*
8. *Parevi Sandesa Vivaranaya. Ed. Munidasa Kumaratunga. Anula Press, Maradana. 1958, Stanza 91, p. 14.*
9. *Hamsa Sandesaya, Ed. Godakumbura. C.E., Colombo Apothecaries Ltd. Colombo. 1953. Stanza 167. p. 30.*

An Auspicious Symbol

Among the hundred and eight auspicious signs on the soles of the Buddha, it is stated, were the signs of two Blue Manel flowers included.[1] It is thus clear that the Blue Manel is considered an auspicious symbol.

In Caturitthi Vimana, a story occurring in the Vimanavatthu and its commentary, it is stated that two of the four women who offered two bouquets of Blue Manel to a bhikkhu on his alms round, were endowed with a beautiful complexion in their next birth.[2]



Sigiriya Frescoes depict maidens carrying flowers and flower-buds which appear to be those of Lotus and Manel in their hands. Ancient poets, aesthetically inspired by the sight of Sigiri Frescoes depicting maidens, extolled their beauty in poetic thoughts. Some of these read as follows:

> Hail! The song of the Merchant Kitala.
> (Your) motionless long eye is comparable to the blue water lily and the blue lotus. Do cast your long eyes and look at the people who stand looking at them. [3]
>
> I am Salameyi, the Scribe of the Elder Kudgat Sirina
> Who came, from Aba-Mihidu Vahadu. I wrote this.
> Not noticing that we have come and having made their long eyes red - (eyes) resembling blue water lilies.
> They did not give us a taste of happiness, be it (even) one word of love.[4]
>
> The song of Jivi
> Having looked at (you) my mind is as (if it has) been bewitched; by the mere sight (of you, I am) your slave. The lady who has taken blue water-lilies in her hand did not speak; let us (therefore), go (away).[5]

Sinhala literature abounds in references to Manel. Sinhala Sandesa poets often compared the eyes of maidens to the Blue Manel.

"Eyes like the Blue Manel" (Hamsa Sandesaya),[6]

"Eyes they set a-flutter are like the Blue Manel" (Parevi Sandesaya),[7]

"A woman possessing Blue Manel eyes" (Salalihini Sandesaya).[8]

The Sandesa Poems also reveal that maidens wore Blue Manel flowers as ear-ornaments. Stanza 38 of the Salalihini Sandesaya, [9] and stanza 130 of Parevi Sandesaya[10] testify to this.

Stanza 230 from Guttila Kavyaya[11] bears witness to the fact that the ceremonial chambers used for various occasions were decked with Blue Manel. The stanza states: "Pure white awnings were set up. Garlands of soft Blue Manel were hung on them"

The commentary on Therigatha[12] states that the Arahat Elder Nun Uppalavanna was blessed with a bluish complexion like the 'heart of a Blue Manel' and was endowed with a beauty that charmed the beholder, because she had offered eight bouquets of Blue Manel flowers at the feet of Pacceka Buddhas during a previous birth.

Visuddhimargasannaya[13] states that, those recluses who meditate on the blue colour (nilakasina) could use the Blue Manel flower with its pollen concealed and only its petals exposed, as the focus of their meditation.

The modern Vessagiriya monastery, identified by Paranavitana as the ancient Issarasamana Vihara,

was enlarged and richly endowed by King Kassapa I and named after him and his two daughters, Utpalavarna and Bodhi as Bo-Upulvan Kasupgiri Vehera.[14] The fact that the name Utpalavarna was given to a princess indicates that the flower was held in high recognition during this period.

Upulvan is the name given to a very famous and important deva to whom the shrine at Devundara is dedicated. Names such as Upuli, Uppalavanna, etc. show the popularity of this flower.

1. *Sumangalavilasini (Simon Hewavitarne Bequest), Vol. 4. Colombo. 1918. p. 299.*
2. *Vimanavatthu. Ed. Jayawickrama, N.A., Pali Text Society, London, 1977. p. 65.*
3. *Paranavitana, S. op.cit. Stanza 24, p. 15.*
4. *Ibid. Stanza 224, p. 137 -138.*
5. *Ibid. Stanza 273, p. 167.*
6. *Hamsa Sandesaya. Ed . Godakumbura, C.E., Colombo Apothecaries Co. Ltd., Colombo. Stanza 88, p. 15 .*
7. *Parevi Sandesa Vivaranaya. Ed. Munidasa Kumaratunga. Anula Press, Maradana, 1958. Stanza 179, p. 27.*
8. *Salalihini Sandesaya. Ed. Senanayake, G.S.B. Pradeepa Press, Colombo. 1972. Stanza 56, p. 63.*
9. *Ibid. p. 61.*
10. *Parevi Sandesa Vivaranaya. Ed. Munidasa Kumaratunga. Anula Press, Maradana. 1958. p. 19.*
11. *Guttila Kavya Varnana. Ed. Gunawardane, W.F., Associated Newspapers of Ceylon Ltd., Colombo, 1962. Stanza 230, p. 151.*
12. *Therigatha Vyakhya. Ed. Jayawickrama, N.A. and Kangaha Arachchi, T.B., Gunasena & Co., Colombo 1967. p. 235*
13. *Visuddhimargasannaya. Ed. Ven. Bentara Saddhatissa. Vol. 1. Colombo. 1950, p. 414.*
14. *Paranavitana, S., Four Rock Inscriptions from Vessagiriya and Anuradhapura. Epigraphia Zeylanica, Vol. IV (1934 - 1941). Oxford University Press. 1943. p. 131.*

Healing Properties

The two classical systems of medicine indigenous and Ayurveda, practiced in Sri Lanka are based mainly on the medicinal properties of natural vegetation. This is well illustrated by the following quotation from Pujavaliya which refers to the final assignment given by a teacher to his disciple who had completed his medical studies, and the disciple's response.

"Son, go forth from the four gates of this city on four days, each day covering a different area of four yojanas; look for a root, flower, bark, fruit or leaf that cannot be used as medicine; bring and show it to me".

"My lord, this entire world is like one assemblage of medicinal plants, as if in the distant past it has been planted with medicinal plants alone. I could not find anything that cannot be taken for medicinal purposes."

The Na and the Manel, our national tree and national flower are also richly endowed with medicinal properties. What follows is a concise description of these properties as recognised in the Ayurvedic and indigenous systems.

NA

Practically all parts of the Na tree, root, bark, buds, flowers, stamens, fruits and seeds, and oils and extracts from various parts are administered for various illnesses.[2]

Flower buds are used in dysentery. Stamens are used in dysentery, bleeding piles, haemoptysis, thirst and loss of appetite. The flowers which are very fragrant possess astringent, stomachic, stimulant, carminative and expectorant properties. Thus they are used in the treatment of bleeding piles and dysentery. A paste made of flowers with butter and sugar is used orally as well as an external application for bleeding piles and burning sensation of the feet.

Dried flowers are added as a fragrant adjunct to oils and decoctions. Flowers are an effective ingredient in decoctions for irritability of the stomach, dyspepsia and excessive perspiration.

The bark which is mildly astringent and faintly aromatic is administered with ginger as a sudorific.[3] A tonic made out of the root bark is used in bronchitis and gastritis.[4]

A paste made from leaves ground with coconut oil and cows milk is applied on the head to allay severe conditions of cold.[5] The leaves and flowers in combination with other ingredients are used as an antidote for snake bites and scorpion stings.

The unripe fruit is aromatic and acrid. It is used as a purgative[4] and as an aid to digestion and also in the treatment of fevers, biliousness and conditions of foul breath.[3]

The oil from seeds is an effective embrocation for rheumatism and in the treatment of skin eruptions, itch, scabies, and wounds.[4] Seeds are used in the treatment of fevers as they possess antipyretic properties, and also in the treatment of sore-throat, cough, hiccup, vomiting and dyspepsia. They are highly efficacious in diseases of the respiratory tract. They also possess diuretic properties and hence are used for ailments in the urinary system. Being anthelmintic they are effective in the elimination of

intestinal worms.

The seeds also possess aphrodisiac properties and hence are used in the treatment of sexual debility and vaginal ailments[6]. They are also used to relieve mental fatigue, psychic disorders and in the preparation of a nervine tonic. Seeds are also used in the treatment of cardiac disorders.

MANEL

The Manel that is referred to in the traditional systems of medicine is the variety that produces blue flowers. The other varieties are not so effective in the treatment of illnesses. The root stock, stalks, flowers, stamens and seeds possess medicinal properties,[7] but it is the root-stock that is mainly used. The root stock, seeds, tender leaves and flowers are all edible.

The root-stock of Manel is used in the traditional system of medicine as an agent that 'cools the body'. Powdered root-stock is administered internally for indigestion and dysentery. An infusion of the root-stock is used as a diuretic in the treatment of urinary diseases. As a "blood purifier" it is used in the treatment of cardiac diseases. It also promotes healthy growth of hair. It is used in the treatment of nasal bleeding, excessive thirst, burning sensation of the body, vomiting and haemorrhages from internal organs including uterine bleeding during pregnancy.[8]

The flowers possess narcotic properties.[9] They are used in the treatment of cough and to allay the condition of burning sensation felt on urination. They are also effective in the prevention of miscarriages.

The seeds are used in the treatment of diabetes.

1. *Pujavaliya, Ed. Ven. Kirielle Nanavimala, Gunasena & Co., Colombo. 3rd reprint, 1986, p. 592*
2. *Ayurveda Pharmacopoeia, Vol. I, Part II, p. 101*
3. *Indian Medicinal Plants, K.P. Kirtikar and B.D. Basu p. 275*
4. *The Indian Materia Medica, K.M. Nadkarni, 3rd edition, p. 793*
5. *Medicinal Plants of Ceylon, G.W. Gabriel Gunawardana, p. 314*
6. *Ayurveda Pharmacopoeia, Vol. I, Part III, p. 242*
7. *Ayurveda Pharmacopoeia, Vol. I, Part II, p. 130*
8. *The Indian Materia Medica, K.M. Nadkarni, p. 860*
9. *Indian Medicinal Plants, K.P. Kirtikar and B.D. Basu p. 114*

Botanical Description

MESUA FERREA

Sinh. Na; Hindi. Nagakesara; Tam. Naka, Nagacuram; Eng. Ironwood Tree

Mesua ferrea L. or the Na tree belongs to the plant family Clusiaceae. This family is also referred to as the family Guttiferae, described first by Jussieu in 1789 in his classical work Genera Plantarum. The other common plant genera belonging to this family are *Garcinia* (goraka and mangosteen) and *Calophyllum* (domba, kina etc.). The genus *Mesua*, first described by Linnaeus, is a native of Sri Lanka, Malaysia, India, Burma, Thailand, and New Guinea. This genus is believed to be named after the Arabian Physician and Botanist Jopennes Mesua who lived in Damascus in the 8th century. In Sri Lanka the genus *Mesua* has three species *M.pulchella, M.thwaitesii* and *M.ferrea*.

There has been some confusion regarding the nomenclature of the different species of the genus *Mesua*. Trimen,[1] in his "A Handbook to the Flora of Ceylon" describes two species of *Mesua* for Sri Lanka viz. *M.ferrea* (Na) and *M.thwaitesii* (Diya Na). Three varieties of the species *M.ferrea* viz. variety *pulchella*, variety *salicina* and variety *sclerophylla* were recognized by Trimen. Kostermans[2] in his revision of the family Clusiaceae suggested that *M.ferrea* be called *M.nagassarium* and *M.thwaitesii* be named *M.ferrea*. More recently P.F. Stevens[3] has restudied the nomenclature of these species and has suggested that *M. nagassarium* be once again referred to as *M.ferrea* and *M.ferrea* be renamed *M.thwaitesii* restoring once again the names suggested by Trimen. He is also of the view that the original variety, *M.ferrea*. var. *pulchella* should be raised to the status of a separate species called *M. pulchella*.

Accordingly, it is now generally accepted that the commonly cultivated tree in Sri Lanka which is our national tree is *M.ferrea*. The two species *M. thwaitesii* and *M.ferrea* can be distinguished by the nature of the leaves and the flowers. The leaves of *M. thwaitesii* are longer (up to 30 cm.) and broader than the leaves of *M.ferrea* which are only about 17 cm. long and possess a white powdery under surface. Flowers in *M.thwaitesii* usually occur in groups of 2-3 and are often more than 10 cm. in diameter, whereas the flowers of *M.ferrea* are solitary and often tend to be less than 10 cm. in diameter.

The wood of all three species *M.ferrea, M.thwaitesii* and *M.pulchella* is very hard, heavy and durable and is remarkably resistant to decomposition and decay. This is the reason why the wood is referred to as "iron wood". The heartwood is dark reddish brown in colour.

Mesua ferrea or the Na tree is a medium sized slow growing tree with a short columnar trunk and spreading branches. The base of the tree often forms a low buttress. The leaves are dark green, leathery and lanceolate to long-lanceolate in shape. Young tender leaves are bright pink to red in colour and give the tree a very beautiful appearance with every flush of tender leaves. Flowers are large, about 10 cm. in diameter, bearing four white petals surrounding a bright yellow centre formed of numerous stamens round a central ovary. Flowers are sweetly fragrant, opening at night and the petals usually falling off the next day. The calyx is persistent and remains attached to the fruit.

Although the wood is hard and durable it is difficult to season or work on as it is liable to crack, warp and split. Hence it is not considered a valuable timber but is used in the construction of wooden bridges, railway sleepers and boats. The stamens retain their fragrance even after drying and are used for stuffing pillows and cushions.

A description of the plant as appearing under *M.ferrea* in "A Handbook to the Flora of Ceylon" by Henry Trimen[1] is given below.

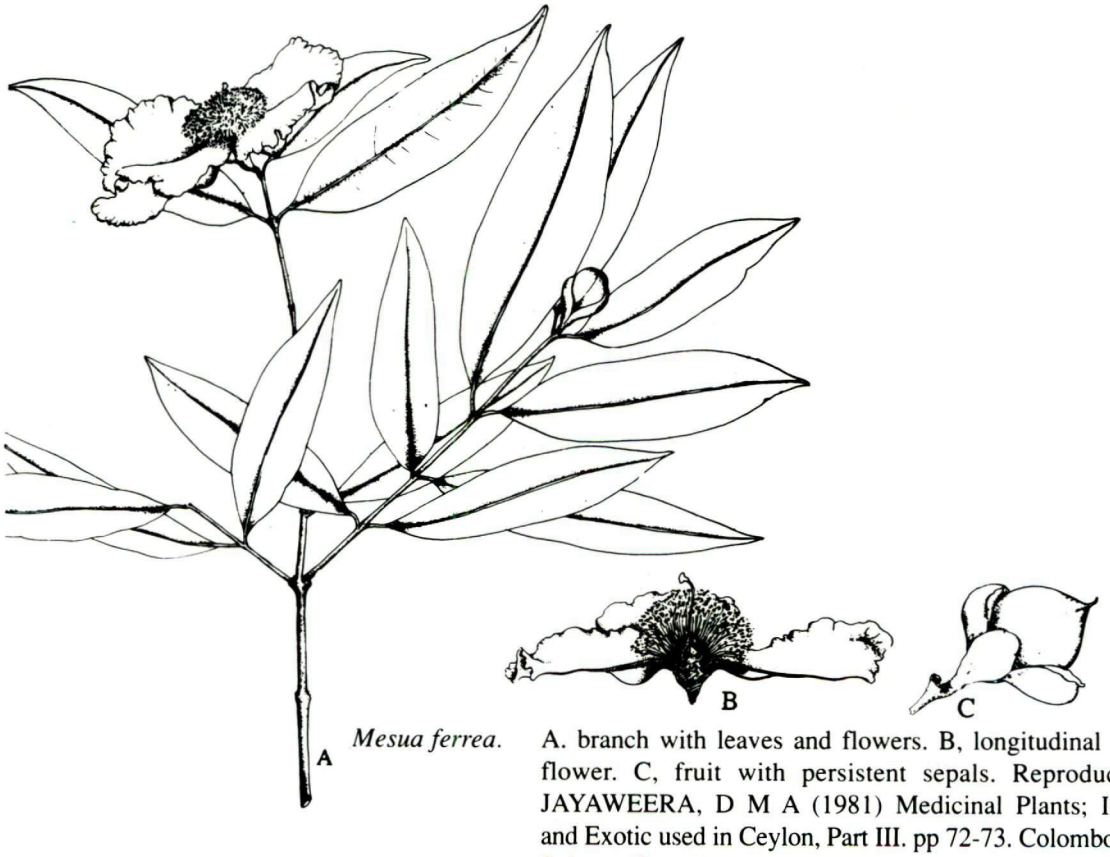
> 1. **M. ferrea,** *L. Sp. Pl.*515 (1753). **Na,** *S.* **Naka**, *T.* Herm. Mus. 7. Burm. Thes. 25. Fl. Zeyl. n. 203. Moon Cat. 51. *M. Nagaha*, Gardn.

1. *Trimen, Henry. A Hand-Book to the Flora of Ceylon. Part I M/S. Brishen Singh, Mahendra Pal Singh, Dehra Dun and M/S. Periodical Experts, Delhi, 1974, pp. 105-107.*
2. *Kostermans, A.J.G.H. (1980). Clusiaceae. In M.D. Dassanayake and F.R. Fosberg (ed). A Revised Handbook to the Flora of Ceylon pp. 72-110. New Delhi.*
3. *Stevens, P.F. Reprinted from Taxon Vol. 35, No. 2, May 1986*

in Calc. Journ. Nat. Hist. viii. 4. Thw. Enum. 50. Pl. and Tri. l.c. 271. *M. Walkeriana,* Pl. and Tri. l.c. 273. *M.salicina,* Pl. and Tri. l.c. 274. C.P. 602.

Fl.B.Ind. i.277 (not given for Ceylon). Wight, Ic.t.118.

A moderate-sized tree, pyramidal till old, much branched, bark smooth, pale, young branches virgate, thickened at nodes, twigs nearly cylindrical, glabrous; l. numerous, spreading, 3-4 in., oblong-lanceolate, acute at base, acuminate, obtuse, coriaceous, glabrous and shining above, covered with dense white powder beneath, lateral veins fine, quite inconspicuous, petioles short, 1/4-1/3 in.; fl. large, 3-4 in. diam., axillary (often apparently terminal), solitary, nearly sessile; sep. rotundate, very obtuse, much cupped, somewhat reflexed, finely puberulous outside, persistent, the inner pair twice as long as the outer; pet. 2 in., obovate, with a broad cuneate base, crisped and undulated, wide-spreading, fugacious; stam. very much shorter than pet.; ov. pyramidal, compressed, style twice as long as stam., stigma capitate, 2-lobed; fr. surrounded by the enlarged crustaceous sep., ovoid or sub-globular, pointed, 1-1¼ in., pericarp tough, semi-woody, ultimately 2-valved; seeds 1-4, angular, testa crustaceous, smooth, chestnut brown".



Mesua ferrea. A. branch with leaves and flowers. B, longitudinal section of flower. C, fruit with persistent sepals. Reproduced from. JAYAWEERA, D M A (1981) Medicinal Plants; Indigenous and Exotic used in Ceylon, Part III. pp 72-73. Colombo; National Science Council.

Botanical Description

NYMPHAEA STELLATA

Sinh. Manel, Nilupul; Hindi. Nilotpala; Tam. Nilotpala; Eng. Blue water lily

Nymphaea stellata Willd. is one of several flowering plants which shows striking adaptations to life in water. Along with its closest relatives they have showy flowers that are highly valued in aquatic horticulture. *N. stellata* has several varieties which differ in size and colour of the flower.

The first part of the name (generic name) has been derived from the Greek word nymphaia which means water lily and the second part of the name, stellata, comes from the Latin word stellatus meaning star, for in a lake having an abundance of this plant the leaves and flowers give the appearance of a star studded sky.

The genus *Nymphaea* has, besides this species another native species in Sri Lanka. This is known as *Nymphaea lotus L.*, which is called olu or at-olu in Sinhala. *Nymphaea* is placed in the family Nymphaeaceae. *N. stellata* is often confused with *N. caerulea* (Egyptian blue lotus) and *N. capensis* (Cape blue water lily) but distinguishable from them by the dentate margin of the leaves.

N. stellata is a perennial aquatic herb with large leaves and, a short rootstock of about the size of a hen's egg buried deep in the soil. The floating leaf blade is borne on rather slender and fully submerged leaf stalks. The leaf blade is rounded, with a dentate margin and purple beneath, 10-13 cm. in diameter with a cleft 5-8 cm. deep at base. Branched main veins radiate out from the summit of the stalk.

The flowers of *N. stellata* are borne on long stalks, and they float on the surface. Each is 7-20 cm. in diameter, has four sepals and numerous petals which vary in size and colour. The petals are usually pale whitish violet, or less commonly light blue, or occasionally pinkish purple. The stamens are numerous and each of them has a tongue shaped appendage profusely adding to the charm and beauty of the flower. The ovary consists of many carpels arranged in a single layer and sunk in the fleshy receptacle. Collectively they give a chambered ovary crowned by radiating stigmas. There are several ovules inside the ovary and these after fertilization become the seeds. The fruit is a berry, and surrounding each seed is a spongy covering.

Various parts of the plant are edible. The stem, the young leaves and the flower stalks are used as a vegetable. The seeds are sometimes used as a cereal.

The plant grows in streams, tanks and ponds throughout the low country and flowers almost all the year round. Natural hybridization occurs whenever two or more species of *Nymphaea* are present in the same body of water. Because of this great potential for the production of horticultural hybrids, *N. Stellata* is a much valued plant in ornamental gardening.

A complete botanical description of *N. stellata* as appearing in 'A Hand-Book to the Flora of Ceylon'[1] is given below.

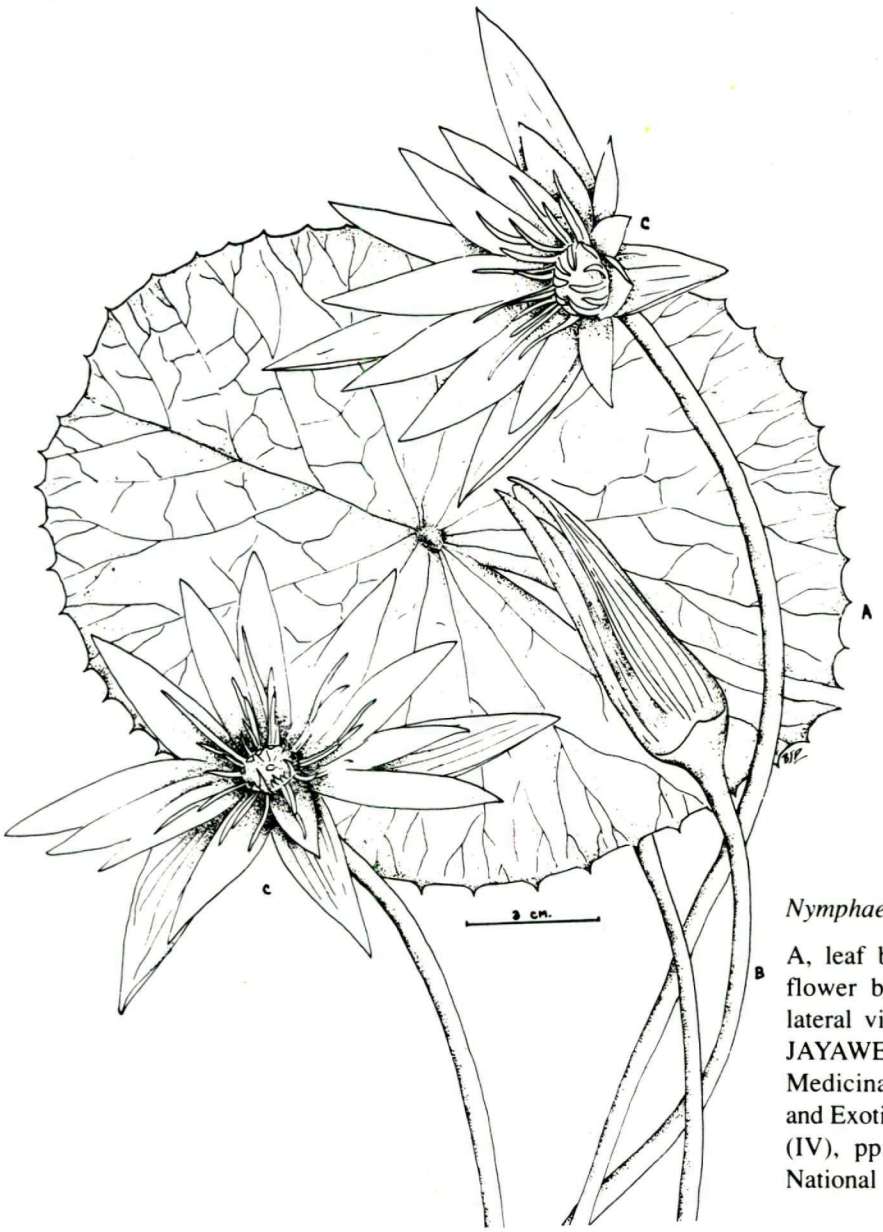
> " 2. **N. stellata,** *Willd. Sp. Pl.* ii. 1153 (1799). **Manel,** *S.* Moon Cat. 41. Thw. Enum. 14 C.P. 1021.
>
> Fl. B. Ind. i. 114. Bot. Mag. t. 2058.
>
> Rootstock ovoid, short, erect; l. on long, rather slender, submerged petioles, blade floating, about 5-8 in. diam., sagittate-rotund, very obtuse, with a usually narrow sinus, 2-3 in. deep at base, entire or coarsely sinuate, glabrous on both sides; fl. solitary on long peduncles, 3-6 in. diam.; sep. narrowly oblong-lanceolate, obtuse or subacute; pet. linear-lanceolate, acute or subobtuse; stam. with a tongue-shaped appendage beyond the anth.; stigmatic rays acute, curved upwards at the ends without appendages; fruit globular; seeds longitudinally striate.

Shallow streams, tanks, and ponds throughout the low country, especially in the dry districts. Fl. all the year; pale blue or violet, open all the day.

Throughout the warmer parts of India, and in tropical and Northern Africa.

This also varies greatly in the size and colour of the flowers. Usually their colour is a very pale whitish-violet, and less commonly a bright light blue; occasionally it is pinkish purple.

The small starchy ovoid rhizomes are eaten when roasted."[1]



Nymphaea stellata.

A, leaf blade with petiole. B, flower bud. C, open flowers, lateral view. Reproduced from JAYAWEERA D M A (1982) Medicinal Plants (Indigenous and Exotic) used in Ceylon, Part (IV), pp. 136-137. Colombo; National Science Council.

1. *Trimen, Henry. A Hand-Book to the Flora of Ceylon, Part I, M/S, Bishen Singh,Mahendra Pal Singh, Dehra Dun and M/S. Periodical Experts, Delhi, 1974, pp. 50-51.*

APPENDIX 1

The Prize Winning Essay

Ven. Hapugoda Sumanatissa Nayaka Thero

(An English Translation)

When suggestions are being made about selecting a flower or a tree that will symbolize the identity of a particular nation, there are several important factors that should be considered. Is the suggested symbol linked to the cultural values of that country? Does it receive illumination from the historical events and the folk-lore of that land? Does it adequately reflect a sense of national prestige? These are some of the considerations. When we give thought to these various aspects, it seems fitting that we should suggest that the Na tree be considered the National Tree.

Na flourishes in many areas in Sri Lanka's wet zone. This tree is found growing quite often even in the Dry Zone, in association with Buddhist Temples and Hindu Kovils. Its trunk is straight and the corewood exceptionally strong. It is somewhat large in size.In early growth the tender Na leaf takes on an alluring pinkish hue. Gradually it becomes dark red and in a short time turns green. The Na leaf generally has a sheen and is smooth. Being an evergreen tree it retains its pleasant soothing appearance throughout the year. When in bloom it is a comely sight. The Na flower is white and is somewhat large. The flower possesses four petals. The pollen is yellowish. When the Na flower is in bloom, the whole atmosphere is laden with a sweet smell.

The Na leaf is aesthetically pleasing not only in its colour but also in its shape. Because of this, Na leaves (both tender ones and mature ones) are suspended under the awning of Pirith Chambers. The decorative item called "Mutu Dal" (pearl strings) or "Mutu Lal" (which also means strings of pearl) made of metal sheets or coarse cloth which were suspended at the corners of roofs of ancient buildings or ceremonial chambers (Ran-Sivi-ge) and of three-storeyed buildings etc., had Bo leaves and Na leaves, alternately.

There is archaeological evidence to uphold this.

Na is a very valuable variety of wood. The hard wood of the Na tree is utilized for the wood-work in Buddhist temples and devalayas.

The Na tree received adoration as a sacred tree from very ancient times. As is referred to in the stories of Twenty-four former Buddhas in Buddhist literature, Buddhas Mangala, Sumana, Revata and Sobhita received enlightenment under a Na tree. According to the classical Buddhist poem, the Maitri Varnana (ode to Buddha Maitreya), the Buddha Maitreya who will appear in some future age will also receive enlightenment under a Na tree. This is illustrative of the fact that Na has acquired a position of prestige as a holy tree from very early times.

During the first of the three visits of Gautama Buddha to Sri Lanka, he arrived at Mahanaga Vana (The Great Grove of Na Trees) in Minipe.* It is reasonable to assume that this place was referred to as "The Great Grove of Na Trees", because many Na trees are found growing even now in this place.

History shows that from times of yore, the people venerated the Na tree as an abode of deities and spirits. This indicates that the Na tree was closely associated with the life of ordinary folk.

Praises of the Na tree have been sung profusely in ancient Sinhala literature. Salalihini Sandesaya states that the two banks of the Kelani River were comely with the Na trees that grew there. The softness and the suppleness of the lips of maidens are compared to the tender Na leaf, in many a place in Sinhala literature.

The word "Na" occurs in a large number of village names in Sri Lanka. This shows that the Na tree grew extensively in Sri Lanka.

The Na flower and its pollen possess medicinal properties. The oil made out of Na seeds is used as a remedy for pain in the joints and for swellings. Ayurvedic texts state that the Na flower, leaves and seeds, the Na bark and the core (hard-wood) of the Na tree are used in snake-bite therapy, and to cure boils.

Because of its root system that penetrates deep into the ground, the Na tree stands firm. Since this makes the Na tree withstand the force of winds and floods, it is an ideal tree to beautify the road-sides. The Na is a long-living comely tree.

**Note by the compiler,*
Vamsatthappakasini (ed. G.P. Malalasekera, Pali Text Soc. London, 1935, p. 92) explains Mahanagavana as: nagavanassa ussannatta which can be interpreted as 'because of the preponderance of Naga (Mesua ferrea) groves. It can also be interpreted as 'because of the denseness of elephants' forests (habitats)'. The lexial meanings of Pali naga are given as: 1 . elephant, 2. a divine being usually manifesting itself as a hooded cobra, 3. an arahant, 4. the tree called so; vide s.v. naga, Pali-English Dictionary, Pali Text Society, London.

APPENDIX II

100 Million Trees Programme Inter-Ministerial Steering Committee

1984- 1988

1. Mr K H J Wijayadasa,
(Chairman of the Committee)
Secretary to the Prime Minister
and Chairman, CEA.
2. Mr Y W Gunawardena,
Senior Asst. Secretary,
Ministry of Local Government,
Housing & Construction.
3. Mr. W Weeraratne,
Deputy Director,
Ministry of Agricultural
Development & Research.
4. Dr Leslie Herath,
Chairman,
Dairy Development Foundation.
5. Mr S B Bandusena,
Director/Forestry and Environment,
Ministry of Lands & Land Development.
6. Mr L W Madugalle,
Director/Peripheral Development,
Mahaweli Authority.
7. Mr Lal Hewapathirana,
Worldview International Foundation.
8. Mr B M D Soysa,
Senior Asst. Secretary,
Ministry of Highways.
9. Mr D P L Walter Silva,
Chief Education Officer,
Ministry of Education.
10. Mr M S De Silva,
Senior Asst Secretary,
Ministry of Home Affairs.
11. Mr P B Weragoda,
Secretary,
Ministry of Indigenous Medicine.
12. Mr K J T Dayananda,
Deputy Conservator of Forests,
Forest Department.
13. Mr P Udalagama,
Personal Asst. to Chairman,
State Plantations Corporation.
14. Mr C J P Gunawardena,
Director Administration,
Agricultural Development Authority.
15. Mr Henry Perera,
Manager/Forestry,
Janatha Estates Development Board.
16. Dr. S T W Kirinde,
Director,
Dept. of Minor Export Crops.
17. Mr S Millavithanachchi,
Department of Agrarian Services.
18. Mr A K Gunapala,
Director (Envt. Promotion),
Central Environmental Authority.
19. Mr K T D Tissera,
Municipal Commissioner,
Municipal Council,
Colombo.
20. Mr M J Kazeem,
Director,
S A C E P.
21. Mr R A Wijewansa (Convenor),
Director (Envt. Management),
Central Environmental Authority.

Appendix III

Acknowledgements

We wish to place on record our appreciation for the service rendered by several individuals and institutions in the selection of the National Tree and the National Flower.

(1) The Sri Lanka Petroleum Corporation - for their generous financial contribution.

(2) The Worldview International Foundation for the formulation of the media strategy conducting the publicity campaign through multimedia and offering cash prizes for the winners.

(3) The Upali Group of Newspapers, The Lake House Group of Newspapers, Sri Lanka Rupavahini Corporation, Sri Lanka Broadcasting Corporation for publicising the campaign free of charge

(4) The Panel of Judges - for the selection of the National Tree and the National Flower after scrutinizing the nominations received from the public.

The panel of judges comprised the following. (1985)

Mr. K.H.J. Wijayadasa -
(Chairman of the Panel)
Chairman
Central Environmental Authority

Prof. Nandadasa Kodagoda
Head, Department of Forensic Medicine
Faculty of Medicine
University of Colombo.

Prof. I. Balasooriya
Vice-Chancellor
University of Kelaniya

Mr. V. R. Nanayakkara
Conservator of Forests

Mr. G. P. S. H. de Silva
Director
Department of National Archives

Mr. R.A. Wijewansa
Director (Environment-Management)
Central Environmental Authority.

(5) Prof. I Balasooriya, Vice - Chairman The University Grants Commission and Prof. R.N. de Fonseka of the University of Colombo and Prof S. Balasubramaniam University of Peradeniya for assistance in the preparation of the chapter on botanical aspects.

(6) Ven. Dr. Horana Vajiragnana, Honorary

Editor, Sinhalese Etymological Dictionary - for providing material for the chapter on cultural and historical aspects.

(7) Dr. Harold Abeysekara, for assistance in the preparation of the chapter on Healing Properties.

(8) Prof. (Mrs.) Uma Coomaraswamy, Open University of Sri Lanka and Mrs. Piyawathie Jayasuriya, for assistance in the preparation of the Tamil and Sinhala versions of the publication.